WHAT IS CLAIMED IS:

1.   A method of establishing a packet data path in a packet switching network having a UTRAN (UMTS Terrestrial Access Network) connected to an MS (Mobile Station), an RNC (Radio Network Controller) included in the UTRAN, an SGSN (Serving GPRS Support Node) server connected to the RNC for processing first control information received from the MS through the RNC, an S-MGW (SGSN-Media Gateway) connected to the RNC for switching packet data received from the MS, a GGSN (Gateway GPRS Support Node) connected to the SGSN server for processing second control information resulting from processing the first control information, and a G-MGW (GGSN-MGW) connected to the S-MGW for switching the packet data, the method comprising the steps of:

transmitting a first message requesting PDP (Packet Data Protocol) context activation included in the first control information from the MS to the SGSN server;

transmitting a second message representative of a switching path for the S-MGW from the SGSN server to the S-MGW to establish a forward transmission path for transmitting the packet data between the S-MGW and the G-MGW;

transmitting a response message for the second message from the S-MGW to the SGSN server;

transmitting a third message requesting PDP context creation from the SGSN server to the GGSN server in response to the response message for the second message;

transmitting a fourth message representative of a switching path for the G-MGW from the GGSN server to the G-MGW to establish a reverse transmission path for transmitting the packet data between the G-MGW and the S-MGW;

transmitting a response message for the fourth message from the G-MGW to the GGSN server;

transmitting a response message for the third message from the GGSN

- 24 -

server to the SGSN server in response to the response message for the fourth message;

establishing the reverse transmission path for the S-MGW by the response message of the third message by the SGSN server; and

5   transmitting a message indicating completed establishment of the forward and reverse transmission paths from the SGSN server to the MS.

2.   The method of claim 1, wherein the first through fourth messages include a TEID (Tunnel Endpoint Identifier).

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3.   A method of releasing a packet data path in a packet switching network having a UTRAN (UMTS Terrestrial Access Network) connected to an MS (Mobile Station), an RNC (Radio Network Controller) included in the UTRAN, an SGSN (Serving GPRS Support Node) server connected to the RNC for processing

15 first control information received from the MS through the RNC, an S-MGW (SGSN-Media Gateway) connected to the RNC for switching packet data received from the MS, a GGSN (Gateway GPRS Support Node) connected to the SGSN server for processing second control information resulting from processing the first control information, and a G-MGW (GGSN-MGW) connected to the S-MGW for

20 switching the packet data, the method comprising the steps of:

transmitting a first message requesting PDP (Packet Data Protocol) context deactivation included in the first control information from the MS to the SGSN server;

transmitting a second message requesting PDP context deletion from the

25 SGSN server to the GGSN server;

transmitting a third message representative of a switching path for the G-MGW from the GGSN server to the G-MGW to release the established transmission path;

releasing the switching path set in the third message in the G-MGW and transmitting a response message for the third message from the G-MGW to the GGSN server;

transmitting a PDP context deletion response message indicating the result

5 of PDP context deletion from the GGSN server to the SGSN server in response to the response message of the third message;

transmitting a fourth message representative of a switching path for the G-MGW from the SGSN server to the S-MGW to release the established transmission path;

10 releasing the switching path set in the fourth message in the S-MGW and transmitting a response message for the fourth message from the S-MGW to the SGSN server; and

transmitting a context deactivation accept message from the SGSN server to the MS.

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4.   The method of claim 3, wherein the first through fourth messages include a TEID (Tunnel Endpoint Identifier).

5.   A SRNS (Source Radio Network Controller) relocation method for

20 an MS (Mobile Station) moving from a source RNC to a target RNC (Radio Network Controller) included in a UTRAN (UMTS Terrestrial Access Network), an SGSN (Serving GPRS Support Node) server connected to the source RNC for processing first control information received from the MS through the source RNC, an S-MGW (SGSN-Media Gateway) connected to the source RNC for switching

25 packet data originated from the MS, a GGSN (Gateway GPRS Support Node) connected to the SGSN server for processing second control information resulting from processing the first control information, and a G-MGW (GGSN-MGW) connected to the S-MGW for switching the packet data, the method comprising the

steps of:

transmitting a first message requesting relocation included in the first control information from the MS to the SGSN server;

transmitting a second message requesting forward MS location information
5 to be changed from the SGSN server to a new SGSN server in response to the first message;

transmitting a third message notifying that the location of the MS is changed from the new SGSN server to a new S-MGW in response to the second message;

10 updating the MS location information according to the third message in the new S-MGW and transmitting a response message for the third message from the new S-MGW to the new SGSN server;

requesting transition of an existing packet service for the MS from the new SGSN server to a target RNC;

15 accessing a channel for the packet service in the target RNC and transmitting a relocation request acknowledgement message from the target RNC to the new SGSN server;

transmitting a response message for the second message from the new SGSN server to the SGSN server;

20 requesting SRNS relocation to the source RNC by the SGSN server;

transmitting a fourth message requesting update of the MS location information from the new SGSN server to the new GGSN server when the new SGSN server receives a message notifying that relocation is completed from the source RNC;

25 transmitting a fifth message requesting establishment of a new transmission path for the packet service according to the updated MS location information from the new GGSN server to the new G-MGW;

establishing the new transmission path according to the fifth message in the

new G-MGW and transmitting a response message for the fifth message;

transmitting a response message for the fourth message from the new GGSN server to the new SGSN server in response to the response message of the fifth message;

5   transmitting a sixth message requesting a new transmission path for the packet service from the new SGSN server to the new S-MGW in response to the response message of the third message;

transmitting the new transmission path according to the sixth message in the new S-MGW and transmitting a response message for the sixth message from

10 the new S-MGW to the new SGSN server whereby completing the establishment of the transmission path;

transmitting a seventh message requesting release of an existing transmission path from the SGSN server to the S-MGW; and

releasing the existing transmission path according to the seventh message in

15 the S-MGW and transmitting a response message for the seventh message from the S-MGW.

6.   The method of claim 5, wherein the first through seventh messages include a TEID (Tunnel Endpoint Identifier).

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